

## How flammable are our gum leaves?

Class: \_\_\_\_\_

Date: \_\_\_\_\_

Group members: \_\_\_\_\_

We know that gum trees produce eucalyptus oil. But does the presence of this oil make their leaves more flammable (easily able to catch on fire) than other native and non-native trees and plants? In this activity you will find out.

### You need

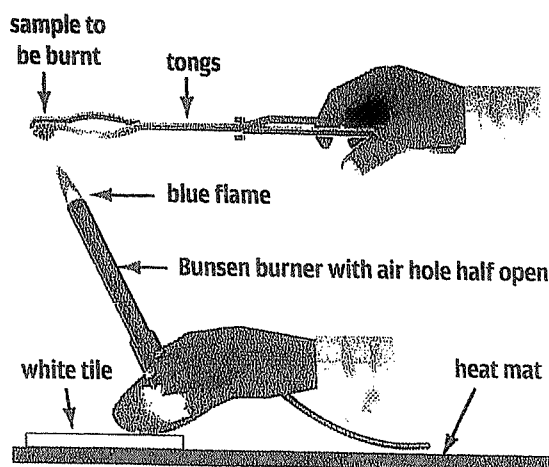
- green and dry, dead gum leaves, preferably from a number of different kinds of gum
- green and dry, dead leaves from other native plants such as grevilleas and wattles
- green and dry, dead leaves from introduced plants such as roses, geraniums, elms and oaks
- tongs
- Bunsen burner
- heat mat
- large white ceramic tile
- box of matches
- stopwatch
- safety glasses

### Safety advice

Ensure that you take all the appropriate precautions in using the Bunsen burner:

- Place the burner over the heat mat well away from the edge of the bench.
- Long hair must be tied back and safety glasses worn.
- Sleeves must be tight fitting and not too long.
- The box of matches must be shut before you light the match.
- Shut the air hole when lighting the burner and when not using the flame, so that you have a visible yellow flame.
- Hold the Bunsen burner at an angle, as shown in the diagram, so that no sample can fall down into and block the barrel of the burner.

### What to do



How to burn the sample correctly

- 1 Place the ceramic tile next to the Bunsen burner on the heat mat and light the burner, so that there is a visible yellow flame.
- 2 Your teacher will give your group some of the leaves to test. Pick up a leaf with the pair of tongs. Open the air hole of the burner so that you see the blue flame. Put the tip of the leaf in the flame until it ignites (catches fire), as shown in the diagram. As soon as this happens, remove the leaf from the flame and place it on the ceramic tile. Shut the air hole so that the burner shows the visible, yellow flame.

# How flammable are our gum leaves?

Class: \_\_\_\_\_

Name: \_\_\_\_\_

- 3 Record the time it takes for the leaf to ignite and the time it takes to completely burn. If this is longer than 5 minutes, just record 5+ minutes.
- 4 Record all your observations, including a description of the ash that remains.
- 5 Repeat steps 2-4 with each of the other leaves in turn.
- 6 Pack up according to your teacher's directions.

## What did you discover?

### Your results

Record your results in the table below.

Leaf type	Time taken to ignite	Time taken to burn completely	Observations
(long) Casuarina (sheoak)			
gum leaf			
dried gum leaf			
unknown (unnative)			

Compare your results with those of the other groups, and answer the following questions.

- 1 Compare the flammability of the different types of green leaves that were tested.

\_\_\_\_\_

- 2 Compare the flammability of the different types of dry, dead leaves that were tested.

\_\_\_\_\_